

THREE NEW SPECIES OF ISOCHAETOTHRIPS FROM AUSTRALIA

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Family THRIPIDAE Uzel

Subfamily THRIPINAE Karny

Genus ISOCHAETOTHRIPS Moulton

This genus, *Isochaetothrips*, was erected by Moulton in 1928. He separated it from *Taeniothrips* Uzel by the fully developed wings, in which both veins of the forewing have regularly spaced spines. *Physothrips seticollis* Bagnall, 1915, is the type of the genus.

Isochaetothrips frankstoni sp. n.

♀ *Length*, 1160 μ ; width of mesothorax, 265 μ . *Colour*—Yellow with slight reddish subcuticular colouration. The end of the mouth-cone, two longitudinal bands on the mesoscutum, a spot on each side of abdominal segments III-VII are tinged faintly with grey-brown. Abdominal segment X also tinged with grey-brown. Spines on the head, pale yellow. Other spines and fringes, pale greyish-brown. Fore-wings, pale yellowish-grey. Hind-wings, clear. Antennal segments: I, pale yellow; II and III, pale yellowish-grey; IV-VIII, grey; III to VI, paler at the base. Ocellar crescents, red. Eyes, black. Legs, pale yellow with tinge of brown on tarsi. *Head*—Length, 90 μ ; width, 150 μ . Dorsal surface (fig. 1 A): cuticle crossed by a few faint confluent transverse striae; eyes, 51 μ long and 44 μ wide, not projecting; interocellar bristles, 5 μ long, are between posterior ocelli; other bristles short and only visible under high power. Ventral surface: the distance from the most anterior part of head to tip of mouth cone, 206 μ ; two bristles posterior to each antenna, inner 19 μ and outer 9 μ ; a bristle on each side anterior to the mouth cone, 22 μ . Antennae (fig. 1 B) 8-segmented; respective lengths of antennal segments, 23, 31, 39, 34, 27, 36, 7, 12 μ . A forked sense cone is present on the dorsal surface of III and the ventral surface of IV. *Prothorax* (fig. 1 A)—Dorsal surface: 110 μ long and 197 μ wide; two bristles on each post-lateral angle of pronotum, outer 35 μ and inner 40 μ ; the posterior margin bears four short, fine bristles between the post-lateral bristles and the median line, the median, 27 μ , is the stoutest; short, fine bristles scattered over pronotum as in fig. 1 B. *Pterothorax*—Three pairs of short, fine bristles on posterior margin of mesoscutum; two pairs on metascutum I (fig. 2 A) placed about 12 μ posterior to anterior margin, a fine outer pair 17 μ and a stout inner pair 39 μ . Legs with a few scattered fine bristles; distal half of hind tibiae with a row of short spines on their inner margins. Fore-tarsus without claw. *Wings* (fig. 2 B)—Fore-wing, 558 μ long; anterior margin bears 22-28 short spines 29 μ long interspersed with longer, finer bristles; anterior vein bears 15-19 bristles 27 μ long; posterior vein bears 14 bristles in all but one specimen, in this there are 11 bristles; alula bears six bristles. A long fringe, about 335 μ , on the posterior margin. *Abdomen* (fig. 1 C)—Dorsal surface: tergite VIII bears a comb containing about 16 teeth on posterior margin. Passing antero-posteriorly on segment IX, bristle I measures 26 μ , II 88 μ , III 80 μ , IV, 72 μ ; segment X, bristle V 70 μ , VI 66 μ .

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♂ (specimen damaged). Length, 920 μ ; width of mesothorax, 118 μ . Colour—Paler than in female; antennal segments I and II pale yellow, III and IV pale grey-brown but paler at the base, V-VIII grey-brown. Mouth cone and tip of tarsi tinged with grey-brown. Head—90 μ long and 136 μ wide; respective

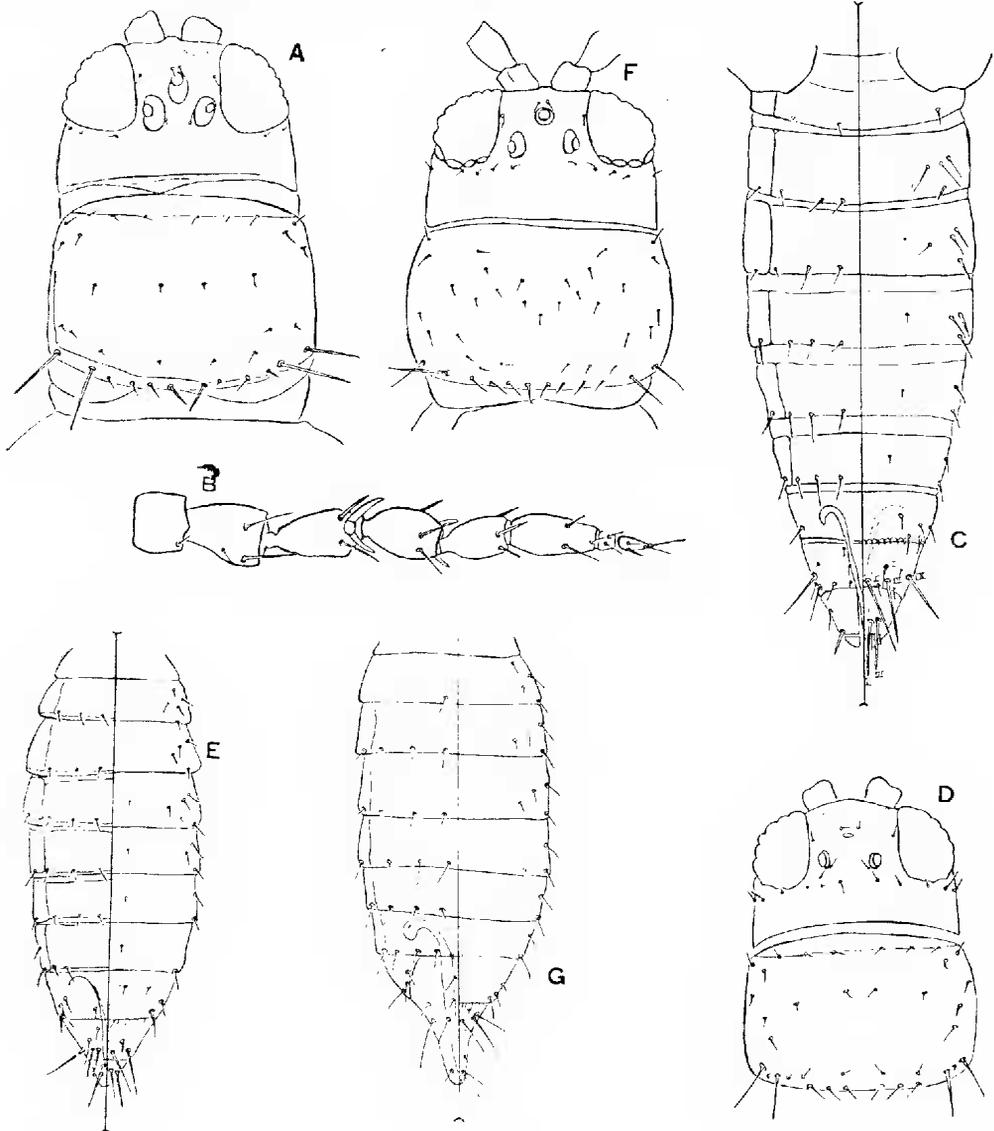


Fig. 1

A-C, *Isochaetothrips frankstoni* n. sp.—A, ♀, head and prothorax, dorsal; B, ♀, antenna, dorsal; C, ♀, abdomen, right dorsal and left ventral. D-E, *I. pallidus* n. sp.—D, ♀, head and prothorax, dorsal; E, ♀, abdomen, right dorsal and left ventral. F-G, *I. melanurus*, n. sp.—F, ♀, head and prothorax, dorsal; G, ♀, abdomen, right dorsal and left ventral.

lengths of antennal segments, 19, 31, 36, 31, 29, 34, 7, 7 μ . Eyes 53 μ long and 48 μ wide. Prothorax—122 μ long and 180 μ wide. Wings—Fore-wing, 500 μ long; anterior margin bears 24 short bristles 12 μ long interspersed with longer, finer bristles; anterior vein bears 16 bristles and posterior vein 13 bristles; alula

6 bristles. Hind-wing normal. *Pterothorax*—Spines on metascutum I placed about $36\ \mu$ posterior to anterior margin. *Abdomen*—Dorsal surface (fig. 2 D): tergite IX bears some fine bristles and three pairs of long, strong bristles, I is $49\ \mu$ long, II $19\ \mu$ long, and III $22\ \mu$ long. Tergite X bears one pair of long, strong curved bristles, VI $62\ \mu$ long, and some fine bristles. Ventral surface (fig. 2 C) has a faint transverse sole-shaped area on sternites III to VII; posterior margin of segment IX bears a strong curved bristle about $45\ \mu$ on each side of

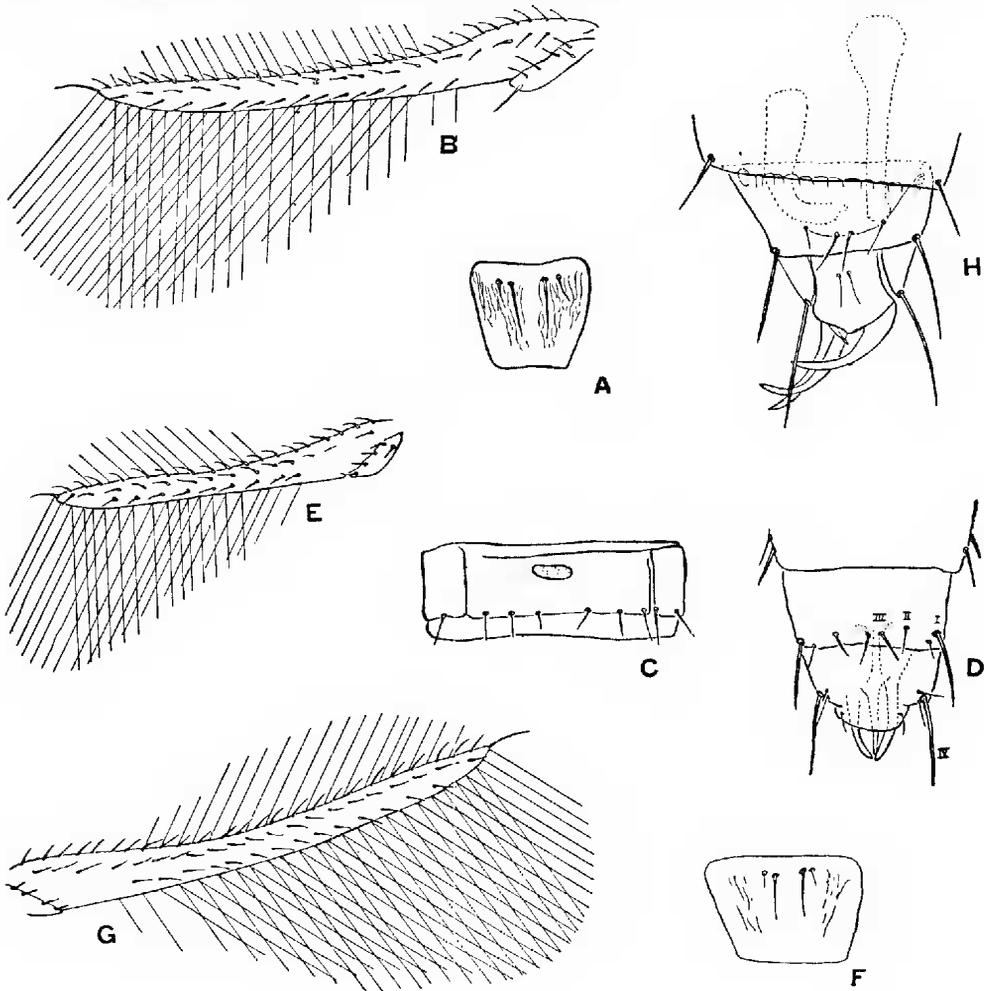


Fig. 2

A-D, *Isochaetothrips frankstoni* n. sp.—A, ♀, metascutum I; B, ♀, forewing; C, ♂, third abdominal segment, ventral; D, ♂, end of abdomen, dorsal. E-F, *I. pallidus*, n. sp.—E, ♀, forewing; F, ♀, metascutum. G-H, *I. melanurus*, n. sp.—G, ♀, forewing; H, ♂, end of abdomen, dorsal.

median line and two near each lateral margin, outer $32\ \mu$ and inner $41\ \mu$. Segment X bears a strong bristle, $62\ \mu$ long, on post-lateral angle.

Habitat—The specimens were collected from *Acacia* sp. at Frankston, Victoria, by Mr. H. G. Andrewartha on 16 May 1935.

The description was made from eight ♀ and one ♂, the latter damaged. The ♀ syntypes and the ♂ allotype have been deposited in the South Australian Museum.

Isochaetothrips pallidus sp. n.

♀ *Length*, 860 μ ; width of mesothorax, 195 μ . *Colour*—Pale yellow. Head yellow, tinged with grey. Mouth cone tipped with brown. Antennal segments I and II almost colourless to pale greyish-yellow, II clouded with brownish-grey at distal end, III-VIII brownish-grey. Eyes reddish-black; ocellar crescents same colour as head and scarcely visible. Fore-wings pale yellow, hind-wings colourless, fringes yellow. Legs yellow, tarsi tinged with brown at distal end; spines greyish. *Head*—Length, 86 μ ; width, 132 μ . Dorsal surface (fig. 1 D): cheeks straight; eyes 49 μ long and 44 μ wide, not projecting; cuticle crossed by faint confluent transverse striae; ocellar crescents scarcely visible; inter-ocellar bristles 9 μ at the posterior median border of each posterior ocellus; see fig. 1 D for placing of small bristles. Ventral surface: two pairs of bristles between the eyes, anterior median pair 19 μ and posterior lateral pair 13 μ , the latter placed about 39 μ posterior to anterior-median corner of eye. Two pairs of bristles posterior to the mouth cone. Length from anterior part of head to tip of mouth cone 170 μ . Antennae 8-segmented; respective lengths of antennal segments, 21, 29, 33, 25, 27, 37, 5, 9 μ . A curved sense cone is present on the dorsal surface of III and the ventral surface of IV. *Prothorax*—Dorsal surface (fig. 1 D): Length, 112 μ ; width, 154 μ . Two strong bristles on each post-lateral angle, outer 26 μ and inner 31 μ . A small fine bristle between these two, three strong short bristles between post-lateral bristles and median line on posterior margin. *Pterothorax*—Four pairs of short fine bristles on posterior border of meso-scutum; two pairs on metascutum I (fig. 2 F) 12 μ from the anterior margin, fine outer bristle 17 μ , strong inner bristle 27 μ . Legs with scattered fine hairs. Lateral border of hind tarsi I bears a short spine at the base. Tarsi II bears a hook. *Wings* (fig. 2 E)—Fore-wing 430 μ long; anterior margin bears 16-20 bristles 27 μ long, interspersed with about 12 longer finer bristles; anterior vein bears 13-16 bristles; posterior vein bears 7-9 bristles, alula 5. Hind-wing normal. *Abdomen* (fig. 1 E, dorsal and ventral).—Dorsal; tergite VIII bears a sparse comb containing about 13 teeth 11 μ long. Tergite IX bears two strong bristles on posterior margin. Outer 74 μ long and inner 70 μ long. Segment X on each side bears two strong bristles, outer 45 μ and inner 54 μ .

Habitat—This description was made from three females collected from *Cassinia longifolia* by H. V. Steele at Kalorama, Victoria, 28 September 1932. The syntypes are deposited in the South Australian Museum.

Isochaetothrips melanurus sp. n.

♀ *Length*, 1039 μ ; width of mesothorax, 242 μ . *Colour*—Head yellow, tinged with pink; thorax and abdomen bright yellow; posterior half of tenth abdominal segment brown. Legs yellow, tip of tarsi tinged with brown. Fore-wings pale greyish-yellow, and hind-wings yellowish. Eyes black; ocellar crescents red. Antennal segments: I pale greyish-yellow, II-VIII yellowish-brown, II-V pale at base, II sometimes darker than III and IV. Spines and fringes brownish-yellow. Spines on abdominal segment IX and X brown. *Head*—Length 95 μ , width 153 μ . Dorsal surface (fig. 1 F): cheeks straight; cuticle crossed by faint confluent transverse striae, a well-marked ocellar area; eyes 54 μ long and 41 μ wide, not projecting, inner angle rounded. Minute inter-ocellar bristles on median edge of each posterior ocellar crescent. Small bristles as in fig. 1 F. Ventral surface: distance from anterior part of head to tip of mouth cone 179 μ . Two bristles posterior to base of each antenna, inner 27 μ and outer 27 μ . A long bristle at post-median corner of eye, 31 μ . There

are two bristles on each side anterior to mouth cone. Antennae 8-segmented; respective lengths of antennal segments, 24, 34, 41, 36, 28, 36, 7, 10 μ . A forked sense cone is present on dorsal surface of III and ventral surface of IV. *Prothorax*—Length, 109 μ ; width, 180 μ . Dorsal surface (fig. 1 F), two strong bristles on each post-lateral angle, inner 39 μ , outer 29 μ ; four short bristles on the posterior margin on each side of median line, the median is the longest, 14 μ ; short fine bristles scattered over the pronotum, as in figure. *Pterothorax*—Three pairs of fine bristles on mesoscutum; two pairs just posterior to the anterior margin on metascutum 1, outer 22 μ and inner 39 μ . Legs with scattered short, fine hairs. Tarsi of hind leg bear spines stronger than in *Isochaetothrips frankstoni* and *pallidus*. Distal half of hind tibia with a row of short spines on its inner margin. Fore-tarsi without claws. *Wings* (fig. 2 G)—Fore-wing 640 μ long; anterior margin bears 26 short bristles interspersed with longer finer bristles, anterior vein with 20-22 bristles 24 μ long and posterior vein 13-14 bristles, alula 6 bristles. Hind-wing normal. *Abdomen* (dorsal and ventral surfaces, fig. 1 G)—Last segments of abdomen and the ovipositor elongated and, therefore, the posterior part of the abdomen is more pointed than in *Isochaetothrips frankstoni* and *pallidus*. Tergite VIII bears a sparse comb; two strong bristles on posterior border of tergite IX, outer 70 μ and inner 61 μ long; a strong bristle on tergite X, 56 μ long.

δ Length—826 μ long, width of mesothorax 218 μ . *Colour*—Same as in the female, except that the posterior part of the abdomen is yellow and antennae paler in colour. *Head*—Length 87 μ , width 142 μ , respective lengths of antennal segments, 19, 32, 39, 34, 27, 36, 5, 10, μ . *Prothorax*—Length 107 μ , width 161 μ . length of posterior lateral bristles, outer 29 μ and inner 35 μ , median 18 μ . *Wings*—Anterior border bears 24-27 short bristles interspersed by longer finer bristles; anterior vein bears 19-20 bristles and posterior vein 14 bristles, alula 6 bristles. Hind-wing normal. *Abdomen* (dorsal surface, fig. 2 H)—Tergite VIII bears a sparse comb; tergite IX bears two short, strong bristles near the median line, inner 24 μ and outer 12 μ , also a strong bristle on post-lateral angle 54 μ ; tergite X bears short bristles near median line 17 μ , and long, strong bristles on post-lateral angles 73 μ . Ventral surface: sternite IX bears two long curved bristles on each side near posterior margin, one near median line 44 μ and one near lateral margin 39 μ ; sternite X bears one strong bristle on post-lateral margin 63 μ long.

Habitat—This species was collected from *Acacia dealbata* by H. V. Steele 13 September 1933, at Kalorama Victoria.

The description was made from four ♀ and three ♂ . The syntypes were deposited in the South Australian Museum.

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